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PORTABLE DISPLAY UNIT FOR GAME CENTER

[Yugijo-yo keitai hyojiki]

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[There are no amendments to this patent.]

Claims

1. A portable display unit for a game center which is configured such that [the unit] can be carried around in a game center where game machines are provided, is equipped with a memory part (12) into which data related to the contents of the business during business hours of the game center and displays the data related to the contents of the business stored in said memory part (12).

Detailed explanations of the invention

[0001]

Industrial application field

The present invention pertains to a portable display unit for a game center which is used to manage game machines in game centers such as pachinko parlors and game centers where tokens are used.

[0002]

Prior art

As an example, in a pachinko parlor, for example, computation of data related to the affairs of the business during the business hours is carried out by means of a large-scale integrated control system, and results of the computation are printed onto a roll paper to be kept as records. Then, the game machines are adjusted for the next day's business based on the recorded computational results. Said computational results refer, for example, to the amount and the percentage of sales for each pachinko machine or island of pachinko machines.

[0003]

In general, in a game center, computational results printed on a roll paper are pasted on a cardboard called a *kugicho** [a type of scrapbook], and a nail adjuster carries this ledger with him/her to adjust the nails on each game machine for the next day's business, referring to the computational results comprised of past data.

[0004]

Problem to be solved by the invention

* [Editor's note: Italicized terms in the text are Japanese words not directly translatable. After each word, an explanation follows in brackets.]

However, since computational results are recorded in print in the aforementioned manner for all game machines in each game center, [this method is] disadvantageous in that the printing ends up taking a long time; thus, adjustments to the game machines, which are to be carried out after the recording is completed, tend to be delayed.

[0005]

In addition, there is also a shortcoming in that when there is a problem with a game machine, the nail adjuster has to travel all the way to where the integrated control system is provided, check the computational results and certain kinds of information on the said game machine, and return to the game machine before he/she makes adjustments and the like to the machine.

[0006]

The purpose of the present invention is to present a portable display unit for a game center which eliminates the trouble of the a nail adjuster needing to carry a ledger, called a kugicho, with him/her; and, in case of a problem with a game machine, the nail adjuster having to travel all the way to where the integrated control system is provided, checks the computational results and certain kinds of information on the said game machine,

and return to the game machine before he/she makes adjustments and the like to the machine.

[0007]

Means to solve the problem

The present invention refers to a portable display unit for a game center which is configured such that it can be carried around in a game center where game machines are provided, is equipped with a memory part (12) into which data related to the contents of the business during business hours of the game center, and displays the data related to the contents of the business stored in said memory part (12).

[0008]

Function

A nail adjuster in a game center carries a portable display unit for game center with him/her in order to manage each machine and/or each island of machines while visiting each machine for the next day's business, utilizing data related to the contents of the business of the game center.

[0009]

Application example

In the present invention, data related to the contents of the business of each game center during the business hours are computed by means of a computer (called a hall computer) of an integrated control system provided at each game center (hall). The data related to the contents of the business refer to, for example, (for each machine) the sales amount, the balance, and the percentages from each machine or each island of machines, which the hall computer computes based on, for example, the number of the objects to play the game with (for example, pachinko balls), the count of collected [balls], and the count of jackpots and related data.

[0010]

In an application example of the present invention described below, a portion or all of the data related to the contents of the business of the aforementioned game center is input and stored in a portable display unit for a game center. A clerk takes the unit to each game machine or a island of game machines to have the data displayed in order to adjust the island of game machines or each game machine for the next day's business. The portable display unit for a game center is capable of, for example, displaying computational results of data on the contents of the

business for an entire week and/or a slump graph for the week. In addition, in if the game machine is a pachinko machine, for example, said portable display unit outputs prescribed nail adjustment codes, or, on the other hand, the nail adjuster can input nail adjustment codes into the said portable display unit. Nail adjustment codes refer to codes for instructing nail adjustment conditions.

[0011]

Figures 1 and 2 represent a suitable portable display unit for a game center (a portable display unit, hereinafter) of the present invention and a hall computer for integrated control.

[0012]

The portable display unit (1) and the hall computer (2) are utilized for managing a pachinko parlor (pachinko hall) in the application example. The portable display unit (1) is also referred to as a portable terminal display. One of several islands of pachinko machines (3) in a pachinko parlor is illustrated in Figure 1 as a representative [example].

[0013]

The island of pachinko machines (3) has a multiple number of pachinko machines (P1), (P2), ... (Pn - 1), and (Pn). The pachinko machines (P1), (P2), ... (Pn - 1), and (Pn) have machine numbers (1), (2), ... (n-1), and (n); (n) is 200, for example. Connections are made such that data (A) on the contents of the business during business hours can be supplied to the hall computer (2) from each of the pachinko machines (P1), (P2), ... (Pn - 1), and (Pn).

[0014]

The hall computer (2) is able to output a data input (D). Said data input (D) refer to the data on the results of the computation carried out by the hall computer (2) based on the data (A) supplied from each of the pachinko machines (P1), (P2), ... (Pn - 1), and (Pn) to the hall computer (2). The data input (D) contains, for example, one week's data called "kugi [nails]", "uchikomi [hits]", "yakumono-chu dedama [rewarded balls]", "kaisu [number of closings/jackpots]", "hokyu [supplied balls]", "kaishu [retrieved balls]", "sashihiki [balance]", and "base".

[0015]

"Kugi" data refers to codes for nail adjustments. These codes for the contents of adjustments are prescribed based on a corresponding chart.

[0016]

"Uchikomi" data refers to the average number of balls or tokens used during the period between the completion of a tokuden (a jackpot) and the beginning of the next tokuden (a jackpot).

[0017]

"Yakumono-chu dedama" data refers to an daily average of the number of the balls rewarded during the period between the beginning of a tokuden (a jackpot) and the end of the tokuden (jackpot).

[0018]

"Kaisu" data referred to how many times a pachinko machine has been closed or how many tokuden (jackpots) have been won during business hours for the day.

[0019]

"Hokyu" data refers to the data which indicate the number of pachinko balls supplied to a pachinko machine.

[0020]

"Kaishu" data refers to the number of pachinko balls retrieved [from a machine].

[0021]

"Sashihiki" data refers to the [difference] after subtraction of the "hokyu" data from the "kaishu" data.

[0022]

"Base" data refers to the data after division of the kaishu, excluding tokuden (jackpots) by the hokyu (payoff rate excluding tokuden).

[0023]

These data inputs (D) are sent through an optical data loader (4) into the input part (6) of the portable display unit (1) from the hall computer (2).

[0024]

As shown in Figure 2, said optical data loader (4) is provided with an infrared communication part (4a). The portable display unit (1) is provided with an infrared communication part

(2a). Data input (D) from said infrared communication part (4a) is sent through infrared communication part (2a) into input part (6) of a portable display unit (2) shown in Figure 1.

[0025]

As shown in Figures 1 and 3, the portable display unit (1) is provided with the aforementioned input part (6), a display panel (8), a computing unit (10), a memory (12), touch panel screen (14), and numeric keys (16).

[0026]

Input part (6) is connected to display panel (8), computing unit (10), numeric keys (16), and touch screen panel (14). Computing unit (10) is connected to numeric keys (16), screen touch panel (14), the memory (12), and display panel (8).

[0027]

Display panel (8) preferably is a liquid crystal display panel, and a transparent touch panel screen (14) is provided on top of said display panel (8). By touching display part of display panel (8) through the touch screen panel (14), the nail adjuster can instruct computing unit (10) using the contents of the displayed part.

[0028]

As shown in Figure 3, numeric keys (16) are provided with a ON/OFF switch (18), a cancel switch (20), a function switch (22), etc. Computing unit (10) gives an instruction to have the data input which is received through input part (6) displayed on display panel (8) and/or exchanges data input (D) with memory (12). In addition, computing unit (10) carries out various computations according to instructions input from numeric keys (16) and/or touch screen panel (14), displays the resulting contents on display panel (8), and/or stores them into memory (12).

[0029]

As shown in Figures 4 and 5, portable display unit (1) is equipped with a battery package (24) and a memory card (26). The aforementioned infrared communication part (2a) is shown in Figure 5.

[0030]

Procedures for managing a game center utilizing portable display unit (1) will be explained next reference to Figure 6.

[0031]

First, data input (D) is called into the portable display unit (1).

[0032]

That is, the power source is turned on by pressing ON/OFF switch (18) shown in Figure 3. Accordingly, as shown in Figure 3, "Business menu" is displayed on the display panel (8). "Display machines for weekly data", "Display all machines for the day", "Display machines for nail adjustment", "Slump graph", "Input store closing data", "Optional functions", "Input slump data", "Set up handy computer [transliteration; possibly portable computer]", "Set up hall computer", and the like are displayed in the said "Business menu".

[0033]

When the display of "Display machines for weekly data" is pressed, the contents shown in Figure 7 are displayed on display panel (8). In the case of a display with these contents, a one-week term specifying part (32), a numeric keys display part (30), a "machine number to call" display part (34), an "island number to call" display part (36), and a "machine type to call" display part (38) are provided. In Figure 7, if the "island number to call" display part (36) is pressed, data on the specified island are sent

out. Also, if the "machine type to call" display part (38) is pressed, data from specified machine type codes are output.

[0034]

In the one-week term specifying part (32), September 1st through 7th is specified as one example. Then, after having specified pachinko machine number "100" in the numeric keys display part (30), the "machine number to call" display part (34) is pressed.

[0035]

Accordingly, as shown in Figure 8, data on the machine number "100" for the week of September 1st through 7th are displayed.

[0036]

In the case of the display shown in Figure 8, additional keys for changing the contents of the display (a "1 week" key (40), an "all machines" key (42), a "nail adjustment" key (44), a "slump" key (46), and a "nail register" key (48)) are provided.

[0037]

A "kugi" display (50) is provided next to a column for the "date". As for the contents of the said "kugi" display (50), a nail adjustment code "L1" for example, is displayed where September 1st shows. An "uchikomi" display (52) indicates the number [of balls or tokens] used. A "Y dedama" display (54) indicates the average number of balls rewarded for one yakumono-chu dedama (also referred to as a tokuden). A "kaisu" display (56) indicates the number of yakumono-chu dedama won [by the customers]. A "Y%" display (58) indicates the average number of [game] starts before a yakumono-chu dedama (tokuden) is won. In the "Y%" display, for example, if the display says 19, it means that the number of starts before a yakumono-chu dedama (tokuden) was won is 190. A "K%" display (60) indicates the average number of starts per minute. For example, if the display says 41, it means 4.1 [starts]. In addition, in the case of ordinary machines ([called] hanemono), the "Y%" display (58) and the "K%" display (60) are changed to a "hokyu" display not shown in the figures. A "kaishu" display (62) indicates the number of pachinko balls retrieved. A "sashihiki" display (64) indicates the number of balls after "hokyu" is subtracted from "kaishu". A "base" display (66) indicates the winning rate excluding tokuden (jackpot). A "sa-gokei [total balance]" display (70), an "uri-gokei [total sales]" display (72), and a "wari-su [percentage]" display (74) each indicate the total value for each island. Said percentage is obtained by dividing the total of (the number of balls sold - balls left in the machine) x 4 for each island by the sales total for each island.

[0038]

Sa-gokei refers to the total of the number of balls remaining in each machine in the island, and uri-gokei refers to the total sales from pachinko ball vending machines provided between the machines in the island.

[0039]

Figure 9 will be referred to next. As shown in Figure 9, when the "all machines" key (42) is pressed, out of all the pachinko machines data on 8 pachinko machines, "machine number 100" through "machine number 108", is displayed on the display panel (8). Then, when the "all machines" key (42) is pressed again, as shown in Figure 10, data on 16 pachinko machines is displayed on the display panel (8).

[0040]

Next, as shown in Figure 11, when the "nail adjustment" key (44) is pressed, nail adjustment conditions for a total of 48 machines are displayed; those with numbers in the 100's, which were specified, as well as those preceding with numbers in the 70's, and those following with numbers in the 120s, for the nail adjuster to see.

[0041]

Each upper line indicates a machine number, and the lower line indicates the nail adjustment codes input. For example, machine number 72 is given a nail adjustment code (80) of "Re #1". Said nail adjustment code (80) indicates a separately prescribed condition for nail adjustment. In order to simplify the diagram illustration of nail adjustment codes for machines other than those with machine numbers 72, 100, and 101 is omitted.

[0042]

Next, as shown in Figure 12, when the "slump" key (46) is pressed, a slump graph (90) is displayed. A slump graph (90), in which the x-axis represents business hours for one day and the y-axis represents the numbers of pachinko balls, refers to a graph which is used to examine whether a game center is making a profit or not. Along the y-axis, the upper direction indicates a disadvantageous situation for the game center, and the lower direction indicates a profitable situation. The slump condition for "machine number 100" is shown in Figure 12.

[0043]

Also, in Figure 12, the slump graph can be enlarged or reduced by pressing a "large scale" key (92) or a "small scale" key (94) so that further details of the slump condition for "machine number 100" can be observed.

[0044]

Furthermore, if necessary, a slump graph (200) for 4 days can be displayed for machine number 123, for example, which has been specified in the manner indicated in Figure 13 by pressing the "optional functions" key (96) in Figure 3.

[0045]

Moreover, as for a method for inputting the aforementioned nail adjustment codes into the portable display unit, a screen display for code input (210) shown in Figure 14 can be displayed by pressing the "nail register" key (48) shown in Figure 8. For example, with regard to machine number 100, the "0" key (220) is pressed, the "1" key (230) of the numeric keys is pressed, and then the "set up" key (240) is pressed. As a result, for example, a nail adjustment code "0 1" can be displayed where machine number 100 is displayed as shown in Figure 11.

[0046]

In addition, as shown in Figure 6, a "previous day" key shown in Figure 9 may be pressed to display data other than for the machines currently displayed; that is, when the data for the day previous to the one whose data are currently displayed are to be displayed, for example. In addition, for the data for the following day to be displayed, a "following day" key shown in Figure 9 may be pressed. Machine numbers can be changed by pressing the "UP" key (320); the "DOWN" key (330) is pressed to return to the machine numbers [displayed] before the change.

[0047]

The present invention is not limited to the aforementioned application example. For example, the present invention can be adopted not only in pachinko parlors but also, for example, in game centers where tokens are used.

[0048]

Effect of the invention

The present invention eliminates the trouble of a nail adjuster needing to carry a ledger, called a kugicho, with him/her, and in case of a problem with a game machine, of the nail adjuster having to travel all the way to where the integrated control system is provided, check the computational results and certain kinds of

information on the said game machine, and return back to the game machine before he/she makes adjustments and the like to the machine. That is, the nail adjuster can confirm data related to the contents of the business during the business hours without leaving the machine, thus adjustment efficiency can be improved for the next day's business.

Brief explanation of figures

Figure 1: It is a diagram which shows the suitable portable display unit for a game center and the hall computer for integrated control of the present invention.

Figure 2: It is a diagram which shows the appearance of the suitable portable display unit for a game center and the hall computer for integrated control which are shown in Figure 1.

Figure 3: It is a diagram which shows the top surface of the suitable portable display unit for a game center shown in Figure 1.

Figure 4: It is a diagram which shows a side view of the suitable portable display unit for a game center shown in Figure 1.

Figure 5: It is a diagram which shows the bottom surface of the suitable portable display unit for a game center shown in Figure 1.

Figure 6: It is a diagram which shows the procedures for managing game machines by means of the suitable portable display unit for a game center of the present invention.

Figure 7: It is a diagram which shows an example of the display of data for the relevant machines for a period of 1 week displayed on the display panel of the suitable portable display unit for a game center of the present invention.

Figure 8: It is a diagram which shows the data for a given machine displayed on the display panel of the suitable portable display unit for a game center of the present invention.

Figure 9: It is a diagram which shows the data for 8 machines displayed on the display panel of the suitable portable display unit for a game center of the present invention.

Figure 10: It is a diagram which shows the data for 16 machines displayed on the display panel of the suitable portable display unit for a game center of the present invention.

Figure 11: It is a diagram which shows an example of the nail adjustment codes displayed on the display panel of the suitable portable display unit for a game center of the present invention.

Figure 12: It is a diagram which shows an example of the slump graph displayed on the display panel of the suitable portable display unit for a game center of the present invention.

Figure 13: It is a diagram which shows another example of the slump graph displayed on the display panel of the suitable portable display unit for a game center of the present invention.

Figure 14: It is a diagram which shows the input display part to input adjustment codes displayed on the display panel of

the suitable portable display unit for a game center of the present invention.

Symbols

1. Portable display unit for a game center
2. Hall computer
3. Island of machines
4. Optical data loader
6. Input part
8. Display panel
12. Memory
14. Screen touch panel

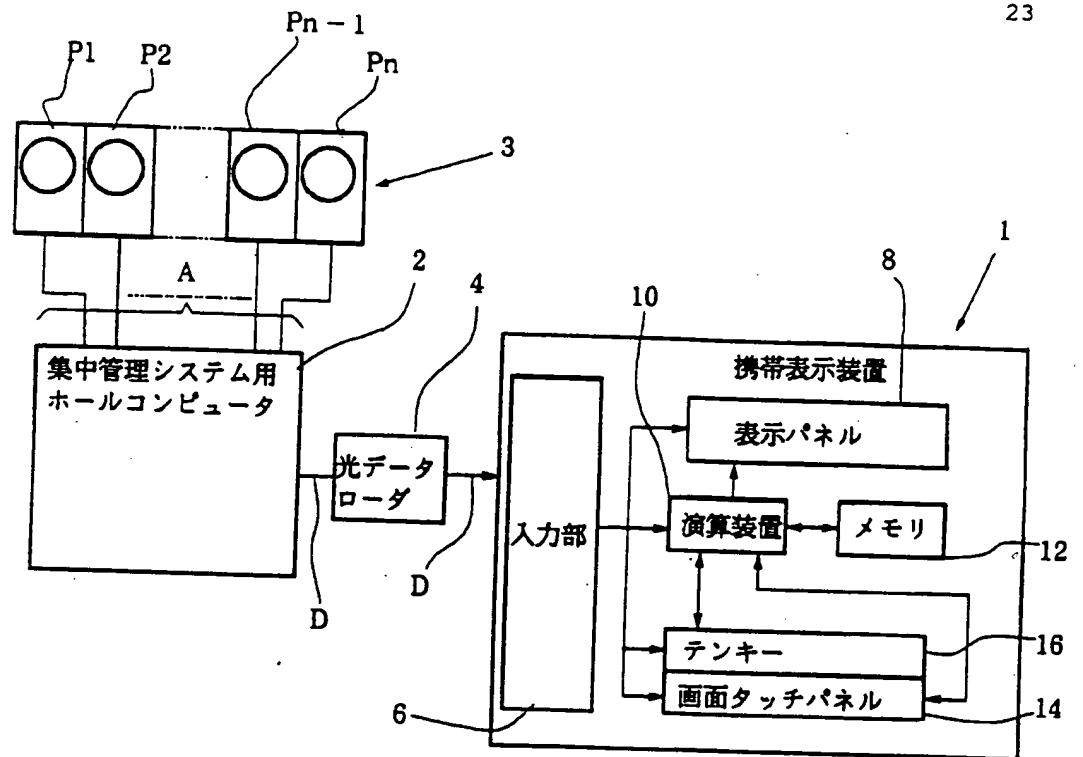


Figure 1

- Key: 1 Portable display unit for a game center
 2 Hall computer for integrated control system
 4 Optical data loader
 6 Input part
 8 Display panel
 10 Computing unit
 12 Memory
 14 Screen touch panel
 16 Numeric keys Figure 2

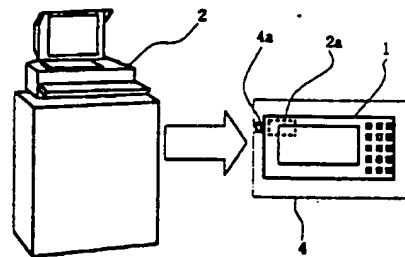


Figure 2

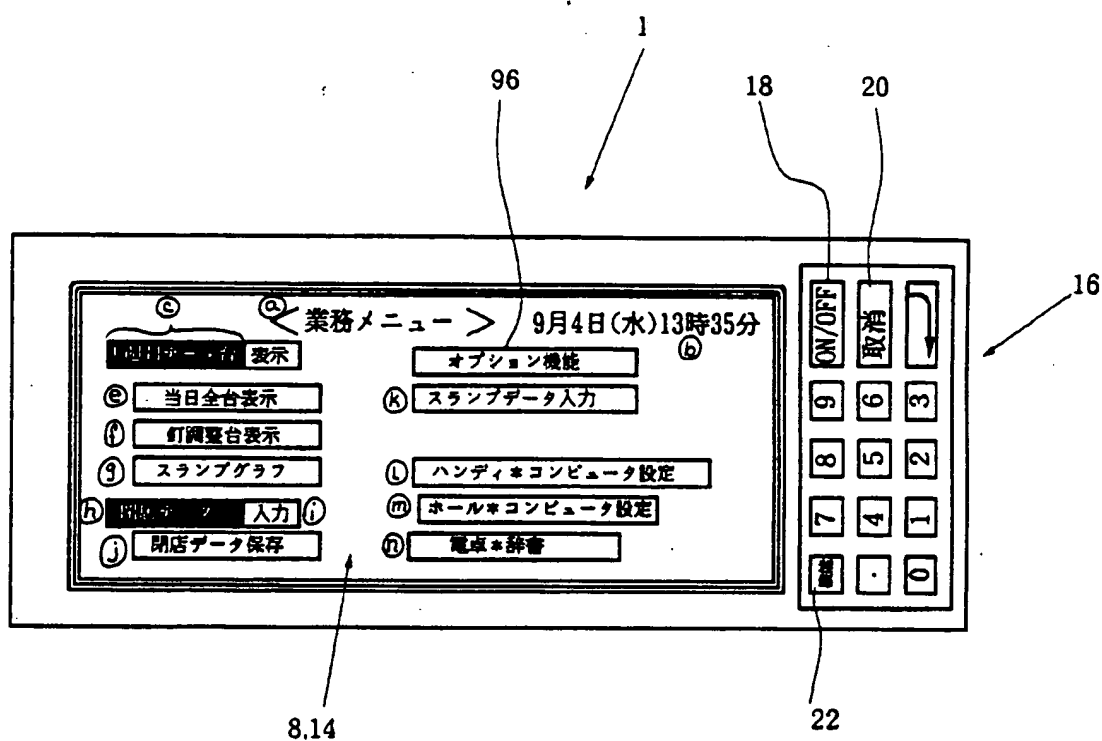


Figure 3

- Key:
- a Business menu
 - b September 4 (Wed.) 13:35
 - c Machines for weekly data
 - d Display
 - e Display all machines for the day
 - f Display machines for nail adjustment
 - g Slump graph
 - h Data of store opening

I Input
j Save data of store opening
k Input slump data
l Set up handy computer
m Set up hall computer
n Calculator/dictionary
20 Cancel
22 Function
96 Optional functions

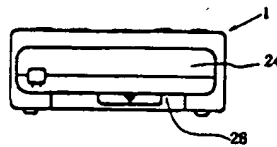


Figure 4

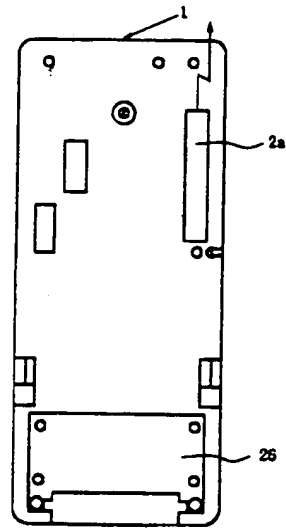


Figure 5

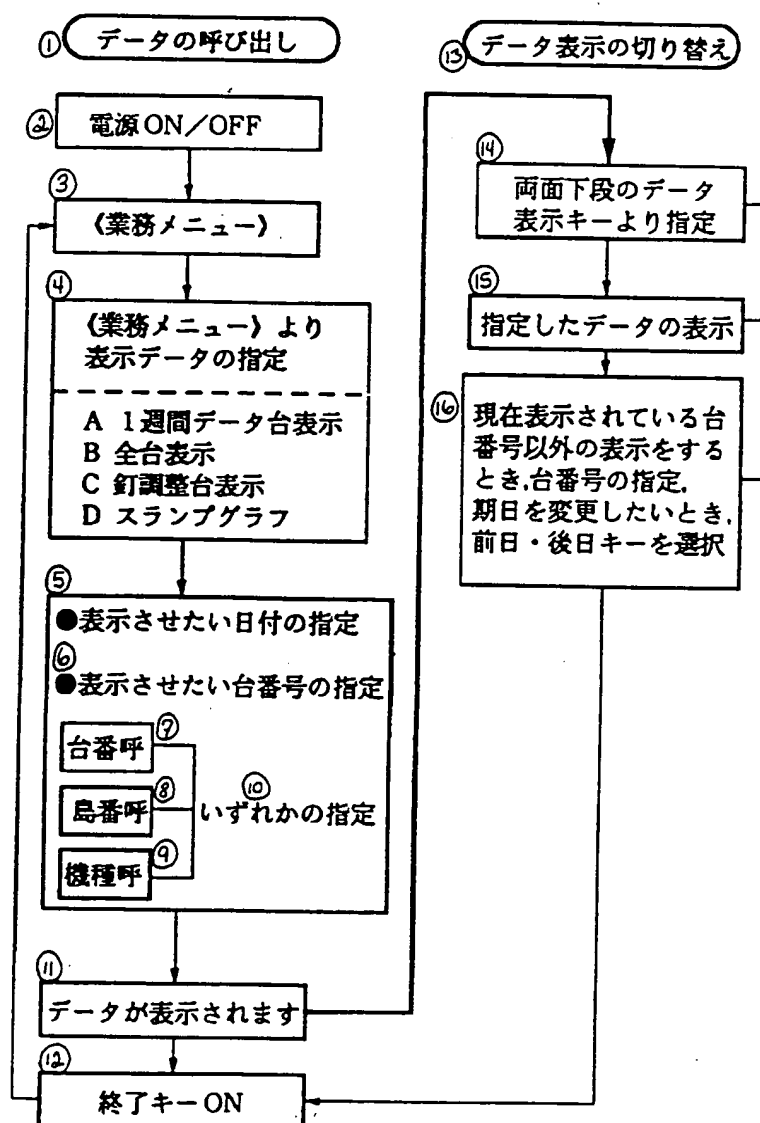


Figure 6

- Keys:
- 1 Call up data
 - 2 Power source ON/OFF
 - 3 «Business menu»
 - 4 Specification of display data from «Business menu»
 - A Display machines for weekly data
 - B Display all machines
 - C Display machines for nail adjustment
 - D Slump graph
 - 5 Specification of desired date to be displayed
 - 6 Specification of desired machine number(s) to be displayed
 - 7 Machine number to call
 - 8 Island number to call
 - 9 Machine type to call
 - 10 Specification of one [of these]
 - 11 Data are displayed.
 - 12 End key ON
 - 13 Changing of data to be displayed
 - 14 Specification by means of data display keys on the lower portion of both sides
 - 15 Display of specified data
 - 16 To display machine numbers other than those currently displayed, specify the machine numbers; and to change terms as desired, select Previous Day key or Next day key.

30

32

< ① 1週間データ台表示 >

② 1.期日を指定して下さい。 (① 1: 機械台 ② 2: スランプ)

③ 09月 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

④ 2.機械台の番号を指定して下さい。 []

6

7

8

9

2

3

4

5

0

1

クリア

台番呼

島番呼

機種呼

34

36

38

⑤ 終了

8,14

30

Figure 7

Key: a Display machines for weekly data
 b End
 c Please specify a period of days.
 d [Pachinko] machine
 e Slump
 f September
 g Please specify machine number(s).
 h Clear
 34 Machine number to call
 36 Island number to call
 38 Machine type to call

① 台番号 100 ② 日付 31 ③ 打込 277 Y出玉 267 回数 10 Y% 18 K% 48 ④ UP 5889 ⑤ DOWN 1673 ⑥ 終了 55

⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼ ㊽ ㊾ ㊿

日付	打込	Y出玉	回数	Y%	K%	回収	差引	ベース
1	277	267	10	18	48	5889	- 125	55
2	113	280	10	22	42	3756	- 1673	66
3	170	272	12	19	39	5419	- 1253	42
4	150	255	13	22	48	5036	- 1383	57
5	129	363	11	21	38	3036	- 2171	31
6	138	353	8	25	31	2439	- 1720	52
7	142	378	7	24	32	2605	- 1615	42
差合計	12183	587200	72	18.503	74			

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼ ㊽ ㊾ ㊿

70 40 42 44 46 48 72 74 8.14

Figure 8

Key: a Machine number
 b End
 c Date
 d Kugi
 e Sales total
 f Percentage
 40 One week
 42 All machines
 44 Nail adjustment
 46 Slump
 48 Nail register
 52 Uchikomi
 54 Y. dedama
 56 Kaisu
 62 Kaishu

64 Sashihiki
66 Base
70 Sa-gokei

台番号 100

UP DOWN 終了

日付 31 打込 Y出玉 回数 Y% K% 回収 差引 ベース

100	277	267	10	22	54	5669	125	55
101	170	272	12	21	48	5774	-1255	49
102	113	280	10	22	48	3756	-1073	66
103	150	255	13	21	55	5036	-1343	57
105	129	353	11	19	40	3036	2171	31
106	138	353	8	21	45	4169	-1720	51
107	142	378	7	19	50	2605	615	42
108	265	288	11	21	51	5923	-87	51

差合計 12123 売合計 587200 割数 18.503

前日 後日 8月28日

Figure 9

Key: a Machine number
b End
c Date
d Kugi
e Uchikomi
f Y. dedama
g Kaisu
h Kaishu
i Sashihiki
j Base
k One week
l All machines
m Nail adjustment

8.14

n Slump
 o Nail register
 p August 28
 q Sa-gokei
 r Sales total
 s Percentage
 300 Previous day
 310 Following day

① 台番号 1. K1					UP					DOWN					② 終了				
③ 台番	④ 回	⑤ アウト	⑥ 差引	BASE	③ 台番	④ 回	⑤ アウト	⑥ 差引	BASE	③ 台番	④ 回	⑤ アウト	⑥ 差引	BASE	③ 台番	④ 回	⑤ アウト	⑥ 差引	BASE
80	4	2229	172	48	100	10	5469	125	55	101	10	3756	1673	66	102	12	4519	- 1275	49
81	5	2744	206	57	103	10	3119	1769	59	105	11	4287	- 1035	49	106	10	2855	- 1208	61
82	19	5663	- 3688	60	107	13	5036	- 1393	57	108	3	2213	17	62					
83	11	3557	1818	70															
85	6	4384	72	54															
86	9	4225	707	58															
87	12	4889	- 1129	56															
88	11	4331	1531	57															

⑨ 1週間	⑩ 台番	⑪ 釘欄	⑫ スランプ	⑬ 釘登録
⑭ 整合計	12131	⑮ 売合計	587200	⑯ 割数
				18.503

⑰ 前日	⑱ 後日
⑲ 8月28日	

42

8.14

Figure 10

Key: a Machine number
 b End
 c Machine number
 d Number of times
 e Out

f	Sashihiki
g	One week
h	All machines
i	Nail-adjustment
j	Slump
k	Nail register
l	Previous day
m	Following day
n	August 28
o	Balance
p	Sales total
q	Percentage

80

(a)	台番号P 100	UP	DOWN		(b)	
	70	0 1 2 3 4 5 6 7 8 レ1 (j)		0 1 2 3 4 5 6 7 8	終了 ※	
	100	0 1 2 3 4 5 6 7 8 レ1 × 1		0 1 2 3 4 5 6 7 8	1: 1	
	120	0 1 2 3 4 5 6 7 8		0 1 2 3 4 5 6 7 8	2: 2	
					3: 0	
					4: 0	
					5: 1	
					6: 0	
					7: 0	
					8: 0	
					9: 0	
		<div style="display: flex; justify-content: space-around; margin: 0;"> 1週間 全台 釘隠 スランプ 釘登録 </div>			(g) 前日	(h) 後日
		(c)	(d)	(e)	(f)	(i) 8月28日

44

8.14

Figure 11

Key: a Machine number
 b End
 c One week
 d All machines
 e Slump
 f Nail register
 g Previous day
 h Following day

i August 28
j Re
44 Nail adjustment

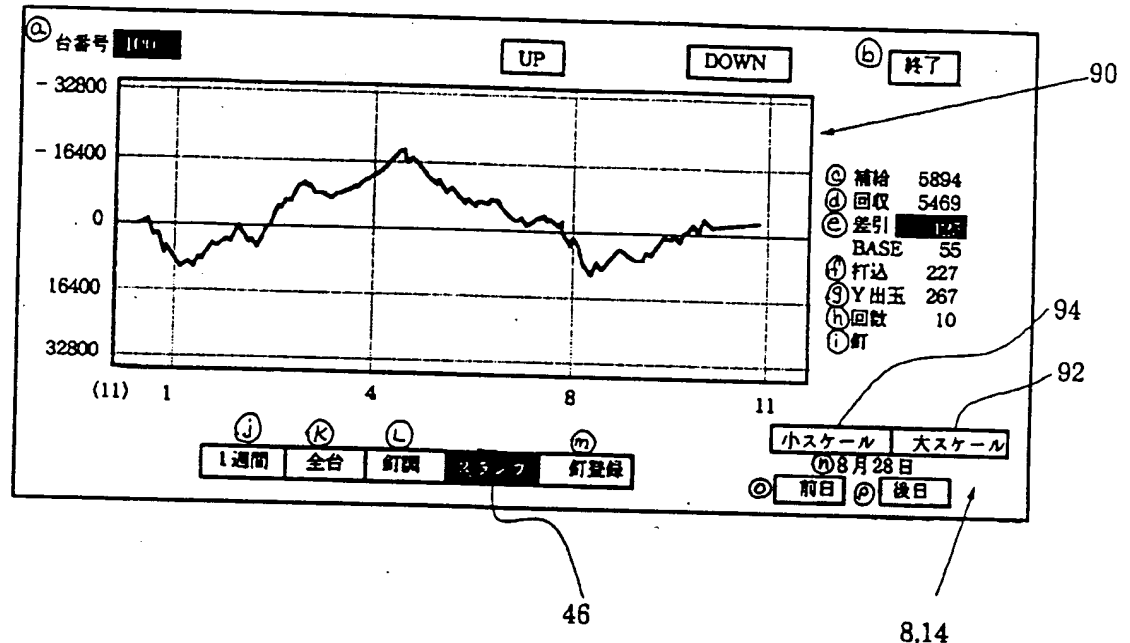


Figure 12

Key: a Machine number
b End
c Hokyu
d Kaishu
e Sashihiki
f Uchikomi
g Y. dedama
h Kaisu

i Kugi
j One week
k All machines
l Nail adjustment
m Nail register
n August 28
o Previous day
p Following day
46 Slump
92 Enlarge
94 Reduce

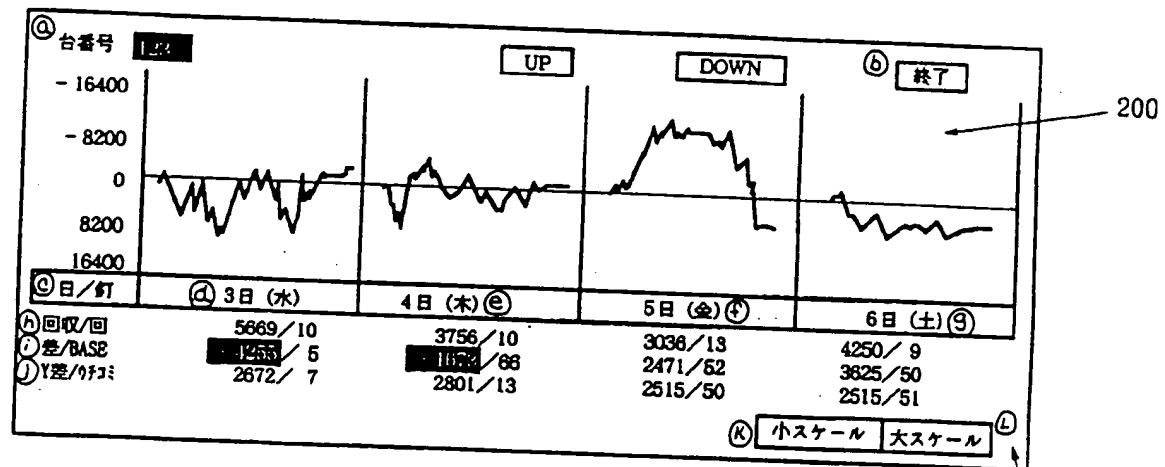


Figure 13

8.14

Key: a Machine number
b End
c Day/Nail
d 3rd day (Wednesday)
e 4th day (Thursday)
f 5th day (Friday)
g 6th day (Saturday)
h Kaishu/numbers of times
i Balance/BASE
j Y. balance/uchikomi
k Enlarge
l Reduce

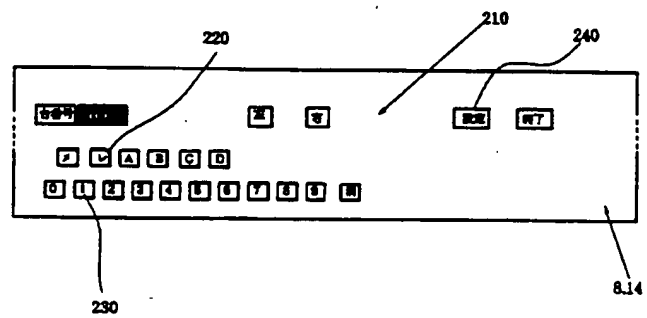


Figure 14

Key: a Machine number
 b Left
 c Right
 d End
 e Erase
 240 Set up